Motor Vehicle and Firearm-Related Deaths

Where adolescents reside, whether in urban, suburban, or more rural settings, has been shown to influence mortality risks (1–3). Teenagers living in the most densely populated metropolitan counties have higher death rates associated with interpersonal violence, while those in more rural counties have higher rates of motor vehicle fatalities. In general, motor vehicle death rates are higher in less densely populated settings and firearm homicide is higher in more densely populated settings (1).

■ In 1996–97 motor vehicle traffic death rates in nonmetropolitan counties were 2–3 times the rates in the core metropolitan (counties with large central cities) counties, while rates in the noncore but still metropolitan counties were in between.

■ In all urbanization categories, the motor vehicle traffic death rates increased with age, with most of the increase occurring by age 17 years. Motor vehicle traffic death rates for adolescents 16 years of age (when many adolescents can begin to drive) were approximately twice those for adolescents 15 years of age in all three county groups. Between ages 18 and 19 years the rate declined by 5–7 percent in each of the three county groups.

■ Age and urbanization patterns for firearm mortality differ from those for motor vehicle mortality. Most notably, the increases in firearm death rates by age were steeper. Between ages 11 and 13 years, firearm death rates more than doubled and were higher in nonmetropolitan counties than in either of the two metropolitan groups. With increasing age, the pattern changed and rates in the core counties were higher than those in noncore metropolitan and nonmetropolitan counties. With each single year of age between 13 and 16 years, firearm death rates in the core counties doubled or nearly doubled. Between 16 and 19 years, the rate came close to doubling again. Core county firearm death rates for 15–19 year olds were more than twice the rates in the other two county groups.

■ The manner or intent of firearm deaths, that is, whether deaths were ruled unintentional, a suicide, or a homicide, differs significantly by urbanization category. For example, the higher firearm death rates among younger adolescents in the nonmetropolitan areas resulted from higher unintentional and suicide rates. Among older adolescents, the majority of firearm deaths in the core counties were homicides while among adolescent who resided in the nonmetropolitan counties, suicide was the mostly likely manner of firearm death.

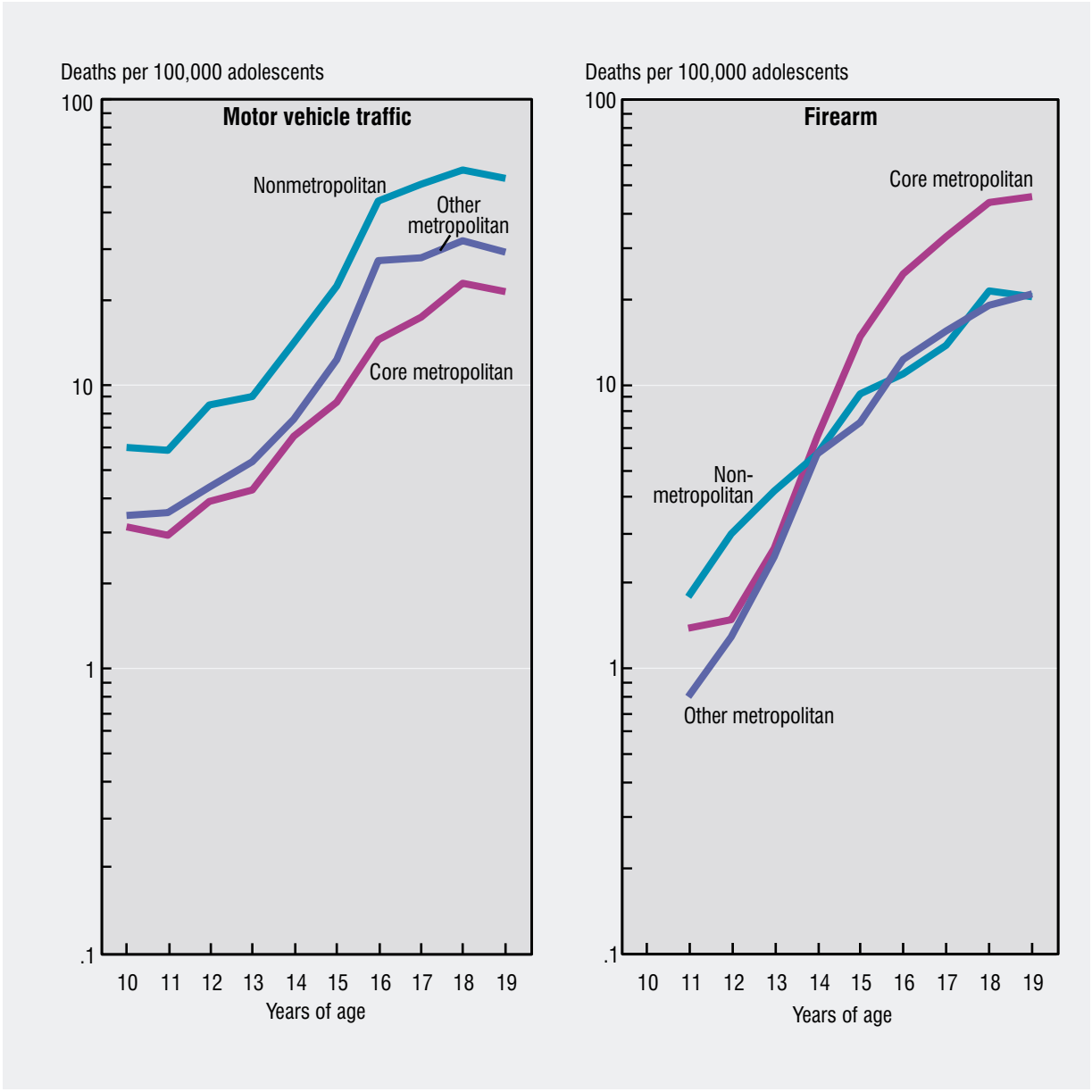
References

1. Fingerhut LA, Ingram DD, Feldman JJ. Firearm and nonfirearm homicide among persons 15–19 years of age: Differences by level of urbanization, United States, 1979–1989. JAMA, 267;3048–3053. 1992.

2. Fingerhut LA, Ingram DD and Feldman JJ. Homicide rates among U.S. teenagers and young adults-differences by mechanism, level of urbanization, race and sex, 1987–1995. JAMA 280(5):423–7. 1998.

3. Cubbin C, Pickle LW, Fingerhut, LA. Social context and the geographic patterns of homicide in black and white males in the United States. AJPH 90:579–87. 2000.

Figure 18. Death rates for motor vehicle traffic-related and firearm-related injuries among adolescents 10–19 years of age, by age and urbanization: United States, average annual 1996–97



NOTES: Death rates are graphed on a log scale to clearly illustrate how rates change across the entire age span 10–19 years. See Technical Notes for discussion of cause of death coding. See also Appendix II, Cause of Death and Appendix II, Urbanization. See Data Table for data points graphed.

SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System. See related *Health, United States, 2000*, tables 45 and 48.